

# Activity 1

## Geometry in Construction

### Identifying Shapes and Forms:

Create a sketch of each of the two-dimensional shapes named below.

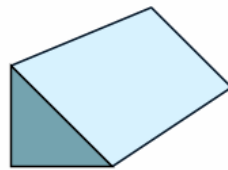
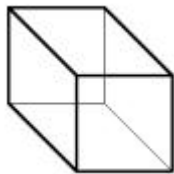
Rectangle

Parallelogram

Circle

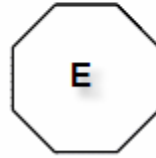
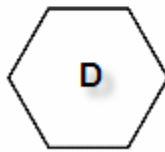
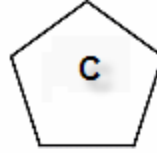
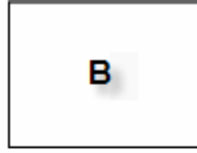
Trapezoid

Write the name of each of the three dimensional shapes shown below.



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Match the correct letter to the name for the polygons shown below.



\_\_\_\_\_ Quadrilateral

\_\_\_\_\_ Triangle

\_\_\_\_\_ Octagon

\_\_\_\_\_ Hexagon

\_\_\_\_\_ Pentagon

### Calculate perimeter area and volume of 2 and 3 dimensional shapes.

Use the Geometric Shapes Equation Sheet to answer the following questions:

1. A rectangular building site measures 30 m by 20 m.  
Calculate the area.  
Calculate the perimeter.

2. A circular patio has a radius of 6 m. Calculate the perimeter and area.

3. A painter needs to calculate area when is ordering paint to paint a room. The room measures 8 m by 6 m by 2.5 m. a) Calculate the surface area of the room. b) If one liter of paint will cover 44 square meters. How many liters of paint will be required to paint the room if two coats are required.



4. A cylindrical water tank has a diameter of 2 feet and a height of 6 feet. Calculate the volume of water which the tank can hold.
5. Francis built a wheel chair ramp in the shape of a triangular prism. The ramp is .2 meters high, 3 meters long and 1.5 meters wide. a) Draw a sketch of the ramp showing the dimensions. b) Calculate the total surface area of the wheel chair ramp.

# Geometry In Architecture

Most architectural design incorporates the shapes and figures from the previous section.

## Home Activity

*Identify two buildings in your neighborhood which have different building styles. Take a digital picture of each.*

*Describe the two-dimensional shapes and three-dimensional figures used in their construction.*

## Classroom Activity

By examining the photos below, list all the two-dimensional shapes and three-dimensional figures that are used in the construction of this church.

**Photos: Central United Church, Sault Ste. Marie, Ontario**



**Two-Dimensional Shapes**



**Three Dimensional Figures**

## BUILDING STYLES

Study the buildings on the website, <http://www.ontarioarchitecture.com> and complete **three sections** of the following table.

<b>Style</b>	<b>Brief Description</b>	<b>2-dimensional shapes</b>	<b>3-dimensional figures</b>	<b>Example in Home Town</b>
<b>Art Moderne 1930 - 1950</b>				
<b>Beaux Arts (1900 - 1945)</b>				
<b>Classical Revival (1820 - 1860)</b>				
<b>Colonial Revival (1900 - 2003)</b>				

**BUILDING STYLES**

<b>Queen Anne Revival Style  (1870 - 1910)</b>				
<b>Second Empire (1860 - 1900)</b>				
<b>Victorian  (1840 - 1900)</b>				

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Which style is the church pictured in the previous section. Support your answer with an explanation.